

REMARKS

Claims 1 – 26 were pending in the present application. Claims 1, 9, 15, 21, and 26 have been amended. Claims 1 – 26 remain pending in the present application.

Rejections Under 35 U.S.C. 112

Claims 1-26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. In particular, the Examiner indicated that limitations using the term “signature” in Claims 1, 9, 15, 21 and 26 are not disclosed in the specification of the present application. While Applicant respectfully traverses these rejections, Applicant has nevertheless amended Claims 1, 9, 15, 21 and 26.

Applicant refers the Examiner to page 10, lines 16-29 of the specification for support of the term “signature” as recited in the limitations of Claims 1, 9, 15, and 21:

“Moreover in some embodiments, each data storage object receives an identifier (or **signature**) that is used each time an application within the referencing storage environment attempts to access the data associated with the storage object. Identifiers are maintained by the stack elements of the system where the data is native. If the data or data location associated with the storage object is altered or modified in any way the stack element (file system, volume manager or device driver) responsible for the level of the map domain where the change occurred changes the identifier. Through maintenance of the object identifiers and with the ability of the referencing application to query the identifier for changes, the referencing application can redetermine or reacquire storage object properties or storage object extents. Accordingly, the data storage object’s logical representation within the referencing storage environment is validated and/or modified as necessary in step 140.”

In view of the above, Applicant respectfully submits that the specification of the present application supports the limitations of amended Claims 1, 9, 15, and 21. Claim 26 has been amended to overcome the rejection under U.S.C. 112. As the rejections of

remaining claims under U.S.C. 112 were based on their dependency on Claims 1, 19, 15, and 21, Applicant respectfully submits that the specification supports the limitations of the remaining claims as well.

Rejections Under U.S.C. 103(a)

Claims 1 – 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frey et al. (U.S. Patent Number 6,029,168, hereinafter ‘Frey’) in view of Mukherjee (U.S. Patent Number 6,466,978, hereinafter ‘Mukherjee’). Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Frey in view of Mukherjee and further in view of Banerjee et. al. (U.S. Patent Number 6,795,830, hereinafter, ‘Banerjee’).

Amended independent Claim 1 recites associating a signature with a data object residing in a second storage environment, indicative of a state of the data object; querying the second storage environment for a change to the signature in preparation for a data access operation on the data object; updating a first data structure if the signature has changed; and performing the data access operation using the first data structure to interface with one or more of the physical locations of the data object from a first storage environment. Applicant can find no teaching or suggestion in either Frey, Mukherjee or Banerjee, singly or in combination, of the combination of features recited in Claim 1.

Amended independent Claim 9 recites assembling a hierarchical map representing a path to one or more storage locations for a data storage object, associating a signature with the map indicative of the state of the data storage object, querying the signature for changes in preparation for a data access operation on the data storage object, updating the map if the signature has changed, and using the map in a second storage environment to access the data storage object. Again, Applicant can find no teaching or suggestion in the art cited by the Examiner, taken singly or in combination, of the limitations recited in Claim 2.

Amended independent Claim 15 recites a first computer readable medium having a data map and a signature representing a data object residing on a second computer readable medium, wherein the signature is indicative of a state of the data object, wherein the map is updated when a change to the signature is detected. Once again, Applicant can find no teaching or suggestion of the features recited in Claim 15 in the art cited by the Examiner, taken singly or in combination.

Finally, amended independent Claim 21 recites a storage environment system comprising a map generated to represent one or more physical locations for each of one or more data objects of a second file system, where the map is used by a first file system when the one or more data objects are referenced; and a signature indicative of a state of the data one or more objects, wherein the map is updated when changes are detected and associated with the signature. Applicant submits that this combination of features is neither taught nor suggested in Frey, Mukherjee or Banerjee, taken singly or in combination.

Accordingly, independent claims 1, 9, 15, and 21 are believed to patentably distinguish over Frey, Mukherjee and Banerjee. Each remaining claim 2-8, 10-14, 16-20, and 22-26 is dependent, directly or indirectly, upon one of the amended independent claims, and is thus believed to also patentably distinguish over Frey, Mukherjee and Banerjee.

CONCLUSION

Applicant submits the application is in condition for allowance, and an early notice to that effect is requested.

If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C. Deposit Account No. 501505/5760-16700/BNK.

Respectfully submitted,



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